

Claims

I Claim:

1. A bagging apparatus for bagging articles in bags supported from a wicket, the apparatus comprising:
 - a frame;
 - a bag station attached to the frame, the bag station comprising a plurality of wicket support bars;
 - a tooling assembly disposed vertically above and adjacent to at least one of said plurality of wicket bars;
 - a bag transfer assembly attached to the frame and comprising a bag engagement element for gripping a bag dispensed from said at least one of said plurality of wicket bars and transferring said bag to a seal assembly disposed vertically below the tooling assembly;
 - and;
 - an indexing means for indexing said at least one of said plurality of wicket bars toward said tooling.
2. The apparatus of claim 1 wherein said indexing means indexes said at least one of said plurality of wicket bars toward said tooling upon each bagging cycle.
3. The apparatus of claim 2 wherein said indexing means indexes said at least one of said plurality of wicket bars a distance related to the thickness of said bag toward said tooling upon each bagging cycle.
4. The apparatus of claim 1 wherein said bag station comprises four wicket bars.
5. The apparatus of claim 1 wherein said plurality of wicket bars are disposed on a rotatable carousel attached to the frame.

6. The apparatus of claim 4 wherein said four wicket bars are disposed on a rotatable carousel attached to the frame.
7. The apparatus of claim 1 wherein said transfer assembly comprises a gripper element disposed on either side of said tooling assembly.
8. The apparatus of claim 7 comprising a linear actuator attached to said gripper element disposed on either side of said tooling assembly.
9. The apparatus of claim 7 wherein said linear actuator attached to said gripper element disposed on either side of said tooling assembly is attached to a cross beam vertically translatable about a vertical guide attached to the frame.
10. The apparatus of claim 2 wherein said indexing means comprises a bias element biasing a wicket wire of said at least one of said plurality of wicket bars against a reference element attached to the frame.
11. A method of bagging product on a bagging apparatus, the method comprising the steps:
 - inserting a plurality of wickets of bags on a plurality of wicket bars of a bagging apparatus comprising a means of positioning a selected wicket bar adjacent to a product tooling assembly;
 - opening a front bag of a selected wicket of bags;
 - inserting the tooling assembly into the opening of the front bag;
 - gripping top side edges of the front bag by grippers;
 - lowering the grippers holding the front bag vertically into a seal assembly;
 - sealing a top portion of the front bag with the seal assembly;
 - removing a chip portion of the bag above a seal formed in the top portion; and
 - raising the grippers vertically for gripping a subsequent front bag presented by the selected wicket bar.

12. The method of claim 11 wherein the chip portion is removed from the seal in the top portion by vertical motion of the grippers.
13. The method of claim 11 wherein the subsequent front bag is indexed forward upon lowering the grippers holding the front bag vertically into the seal assembly.
14. The method of claim 11 comprising a step of positioning a second selected wicket bar adjacent to the tooling assembly after lowering the grippers holding the front bag.
15. The method of claim 14 wherein a rotating carousel positions the second selected wicket bar.
16. A gripper for a bagging apparatus comprising;
a first gripper element and a second gripper element operably disposed so that a side seal portion of a bag is clampable between said first gripper element and said second gripper element:
said first gripper element comprising a face portion and a groove portion recessed below the face portion wherein the second gripper element clamps the side seal portion of the bag is clamped into the groove portion.
17. The gripper of claim 16 wherein the groove portion has a rectangular cross section;
18. The gripper of claim 16 wherein the groove portion has a trapezoidal cross section;
19. A bag for use with automated seal equipment comprising:
an upper side seal portion adjacent to a top opening of the bag; and
a lower side seal portion;
said upper side seal portion comprising a width less than the lower side seal portion.
20. The bag of claim 19 wherein the reduced width of the upper side seal portion is formed by a notch portion cut from an upper portion of a side seal.

21. The bag of claim 19 wherein a side of the bag is straight over a length of the upper side seal portion and the lower side seal portion.